

## SAMPLING BITUMINOUS MATERIALS FOP FOR AASHTO T 40

### Significance

The quality of bituminous materials has a tremendous impact on a roadway project. The grade of binder selected is based on a number of factors, including local temperature extremes and characteristics of expected traffic. Using a grade of binder material other than that specified will have serious impacts on roadway performance and durability.

### Scope

The procedure covers obtaining samples of liquid bituminous materials in accordance with AASHTO T 40. Sampling of solid and semi-solid bituminous materials – included in AASHTO T 40 – is not covered here.

Agencies may be more specific on exactly who samples, where to sample, and what type of sampling device to use.

### Procedure

1. Coordinate sampling with contractor or supplier.
2. Use appropriate safety equipment and precautions for hot liquids.
3. Allow a minimum of 4 L (1 gal) to flow before obtaining a sample(s).
4. Obtain samples of:
  - Asphalt binder from Hot Mix Asphalt (HMA) Plant: from the line between the storage tank and the mixing plant while the plant is in operation, or from the delivery truck.
  - Cutback and Emulsified asphalt from distributor spray bar or application device or from the delivery truck before it is pumped into the distributor: Sample emulsified asphalt at delivery or prior to dilution.



Sampling liquid binder

**Containers**

Sample containers must be new, and the inside may not be washed or rinsed. The outside may be wiped with a clean, dry cloth.

06 All samples shall be put in 1 L (1 qt) containers and properly identified on the outside of the container with contract number, date sampled, data sheet number, brand and grade of material, and sample number. Include lot and subplot numbers when appropriate.

07 • Emulsified asphalt: Use wide-mouth plastic jars with screw caps. Protect the samples from freezing since water is a part of the emulsion. The sample container should be completely filled to minimize a skin formation on the sample.

• Asphalt binder and Cutbacks: Use metal cans.

*Note:* The filled sample container shall not be submerged in solvent, nor shall it be wiped with a solvent saturated cloth. If cleaning is necessary, use a clean dry cloth.

**Tips!**

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- Remember to identify sample on outside of container.

## **REVIEW QUESTIONS**

1. Describe how liquid bituminous material is obtained at an HMA plant.
2. Describe how liquid bituminous material is obtained from a spray distributor.
3. Describe the containers used for sampling.



## PERFORMANCE EXAM CHECKLIST

### SAMPLING BITUMINOUS MATERIALS FOP FOR AASHTO T 40

Participant Name \_\_\_\_\_ Exam Date \_\_\_\_\_

Record the symbols “P” for passing or “F” for failing on each step of the checklist.

Procedure Element	Trial 1	Trial 2
1. Appropriate containers used?		
a. Wide-mouth plastic containers (emulsified).	_____	_____
b. Metal cans (all other bituminous liquids).	_____	_____
2. Containers <u>not</u> washed or rinsed on inside?	_____	_____
3. Minimum of 4 L (1 gal) allowed to flow before sample taken?	_____	_____
4. Material obtained at correct location?		
a. Line between storage tank and mixing plant or from delivery vehicle (HMA plants).	_____	_____
b. Spray bar or application device, if not diluted (distributors).	_____	_____
c. From delivery vehicle or prior to dilution, if diluted (distributors).	_____	_____

Comments: First attempt: Pass ☐ Fail ☐ Second attempt: Pass ☐ Fail ☐

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Examiner Signature \_\_\_\_\_ WAQTC #: \_\_\_\_\_



## ORAL PERFORMANCE EXAM CHECKLIST

### SAMPLING BITUMINOUS MATERIALS FOP FOR AASHTO T 40

Participant Name \_\_\_\_\_ Exam Date \_\_\_\_\_

**Record the symbols “P” for passing or “F” for failing on each step of the checklist.**

Procedure Element	Trial 1	Trial 2
1. Describe the container that is used to sample bituminous liquids. a. New metal can, 1 L (1 qt) in size.	_____	_____
2. Describe the container that is used to sample emulsified liquids. a. New wide mouth plastic jar, 1 L (1 qt) in size.	_____	_____
3. How much material must be wasted before a sample can be obtained? a. A minimum of 4 L (1 gal).	_____	_____
4. At a hot plant where must a sample be taken? a. In the line between storage tank and mixing plant or from delivery vehicle.	_____	_____
5. Where is an emulsified sample taken? a. Spray bar or application device, if not diluted. b. From delivery vehicle or prior to dilution, if diluted.	_____ _____	_____ _____

Comments: First attempt: Pass ☐ Fail ☐ Second attempt: Pass ☐ Fail ☐

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Examiner Signature \_\_\_\_\_ WAQTC #: \_\_\_\_\_

